

CLAIMS

1. A system for the parking braking of a motor vehicle, comprising:

at least one flexible cable (C1, C2) for transmitting a braking operating force to at least one parking brake (B1, B2) and

a linear electromechanical actuator (10) of the screw type, which includes:

- a stationary rigid casing (12) defining a longitudinal axis (x),
- motor means (13, 14) for imparting to a rotary member (15) a rotational movement about said axis (x),
- a tubular nut element (22) coupled in rotation to the rotary member (15) and having

an external thread (21) co-operating with a thread (20) fixedly joined to the casing (12) in order to move the nut along said axis, and

an internal thread (23) opposite the external thread (21),

- a longitudinal rod (11) having
  - a means (11d) for connection to the flexible cable (C1, C2),

a first portion (11a) which is threaded (24) and which co-operates with the internal thread (23) of the nut (22), and

a second portion (11b) having a non-circular cross-section (11c),

- anti-rotation means (18, 27) co-operating between the casing (12) and the second portion (11b) of the rod (11) to prevent the rotation of the rod about said axis so that the rod (11) is translatable longitudinally along said axis in response to the rotary movement imparted by the motor means (13, 15).

2. A braking system according to claim 1, wherein the rigid casing (12a), in a region near the thread (20) fixedly joined thereto, has check means (28, 17) for transferring to the vehicle forces and reactions transmitted from the rod (11) to the actuator (10) when the actuator is operated.

3. A braking system according to claim 1, wherein the check means comprise a flange (28) formed by the casing (12a) near the region where the rod (11) emerges from the casing.

4. A braking system according to claim 1, wherein the check means comprise a rigid transverse end wall (17) of the casing, which wall can act as a check surface for a rigid sheath (S) which surrounds the rod (11).

5. A braking system according to claim 1, wherein the anti-rotation means comprise at least one element (27) arranged transversely in the casing to co-operate with at least one substantially flat surface (11c) of the second portion (11b) of the rod (11) in order to prevent the rotation of the rod about said axis (x).

6. A braking system according to claim 1, wherein the anti-rotation means comprise a non-circular opening (18) formed in a transverse wall (17) of the casing (12a) and capable of co-operating with the second portion (11b) of the rod (11), which portion has a non-circular cross-section, in order to prevent the rotation of the rod about said axis (x).

7. A braking system according to claim 1, comprising a plurality of longitudinal pins (16) acting between the rotary member (15) and the nut element (22) in order to fix the nut (22) in rotation with the rotary member (15) and to enable the nut to move in translation longitudinally with respect to the rotary member (15).

8. A braking system according to claim 7, wherein the longitudinal pins (16) are carried by the rotary member (15) and they engage slidably in respective longitudinal seats (26) formed by the nut element (22).

9. A braking system according to claim 1, comprising a grooved coupling (15a, 26a) between the rotary member (15) and the nut element (22) in order to fix the nut (22) in rotation with the rotary member (15) and to enable the nut to move in translation longitudinally with respect to the rotary member (15).

10. A braking system according to claim 1, wherein the thread (20) fixedly joined to the casing (12), and the corresponding external thread (21) of the nut (22) are trapezoidal threads.

11. A braking system according to claim 1, wherein the thread (20) fixedly joined to the casing is formed by a bush (19) secured to the inside of the casing (12).

12. A braking system according to claim 1, wherein the internal thread (23) of the nut (22) and the corresponding thread (24) of the rod (11) are trapezoidal threads.

13. A braking system according to claim 1, wherein the internal thread (23) and the external thread (21) of the nut (22) are coaxial.

14. A braking system according to claim 2, wherein the casing (12) of the actuator (10) comprises a more rigid portion (12a) which forms the check means (28, 17) and which is secured to a less rigid portion (12b).

15. A linear electromechanical actuator of the screw type according to any one of the preceding claims.